

results presented scarcely any remarkable difference. The physiological needle was stuck in the spadix to the depth of one millimetre, which for this purpose was introduced through a copper ball fixed at an opening made in the jar, and moveable in all directions; which apparatus was made with the utmost accuracy by M. E. Wenkebach, philosophical instrument maker at Amsterdam.

The analysis of the atmosphere produced the same results as in the former experiments, viz. the replacing of oxygen gas by carbonic acid gas.

As soon as an opportunity presents itself for the repetition of these experiments, we shall endeavour to maintain the usual proportion of the gases from the atmosphere in the jar, by supplying oxygen gas in the same ratio as it will be found to be absorbed from the enclosed air, and by removing the newly-formed carbonic acid gas.

We do not doubt, that by this mode of proceeding, the elevation of temperature in the spadix of *Colocasia odora* can be kept up the second and third day, and perhaps even to a longer period.

Amsterdam, August 13th, 1840.

XX.—*Note on the Occurrence of the Genus Diphyia on the Coast of Ireland.* By G. C. HYNDMAN, Esq., Member of the Natural History Society of Belfast.

WHILST dredging in Belfast Bay on the 6th October, 1838, I had the pleasure of taking in a small towing-net, along with a number of Beroes, a specimen of the remarkable genus *Diphyia*, Cuv., the occurrence of which in the British seas is hitherto unrecorded.

With Cuvier's definition of the genus the specimen exactly agreed, as it did with that of Blainville, except that there were no teeth round the aperture of the swimming cavity, as described by the latter author. This appearance instead arose from the extension of the acute ridges by which the body of the animal is formed, and which is indeed shown by the figures in Pl. V. of his 'Actinologie.' Referring for the species to this work, to Eschscholtz's 'System der Acalephen,' to Comte's and to Guérin's 'Illustrations of Cuvier's Règne Animal,' and to Jones's 'Outlines of the Animal Kingdom,' the only works in which I have had the opportunity of seeing the genus represented, I find that my specimen differs in species from all in its more elongated form; I should therefore propose to name it

DIPHYA ELONGATA.

Spec. Char. Both portions of similar form and nearly equal size; the swimming cavity of each likewise similar, and, as well as the nutritive organ, extending the whole length of the body.

The animal or animals when first taken were united, as shown in the sketch, the whole body being of a most beautiful transparency; so much so, that it was extremely difficult to distinguish it in the clear sea-water. The only coloured part was the long tentacular appendage, which was of a light reddish colour, and only to be seen in the larger individual. The motion of the *Diphyia* through the water was caused by the contraction of an elongated cavity having an open round aperture fringed with what had the appearance of a soft membrane without any ciliæ, by which contraction the animal was rapidly propelled through the water with the pointed end foremost in a series of jerks, agreeing with the motion attributed to the genus by Eschscholtz. At other times, when lying undisturbed, there was no appearance of animation except a very slight movement of the tentacula, nor was the circulation perceptible under a strong lens; but on examination under a powerful microscope, a circulation was discovered commencing in the canal which originates at the base of the tentacular appendage, and continuing throughout the nutritive organ.

In removing the *Diphyia* for examination in the microscope the two bodies separated, when each appeared quite a distinct animal, capable of precisely similar motions; the only difference between them being, that the smaller one was destitute of the tentacular appendage, and the pointed end was furnished with a lamina, as in sketch.

Of the nature of the connexion between the two individuals, or of the functions of the tentacular appendage, I was unable to satisfy myself during the short period allowed me for their examination; the smaller one having died the day after its separation, and the larger one having remained in a languid state, with its tentacula contracted, until the third day after its capture, before which time I had not the means of examining it under a good microscope.

I have delayed this communication so long in the hope of being able to procure further specimens, but as yet I have been unsuccessful; although the probability is, that the animal may not unfrequently be met with on this coast, as Mr. Thompson lately pointed out to me a dried specimen of another individual of the same species, which I had picked up

on the coast near the Giant's Causeway in July 1837, and not being able to determine, had handed over for his investigation.

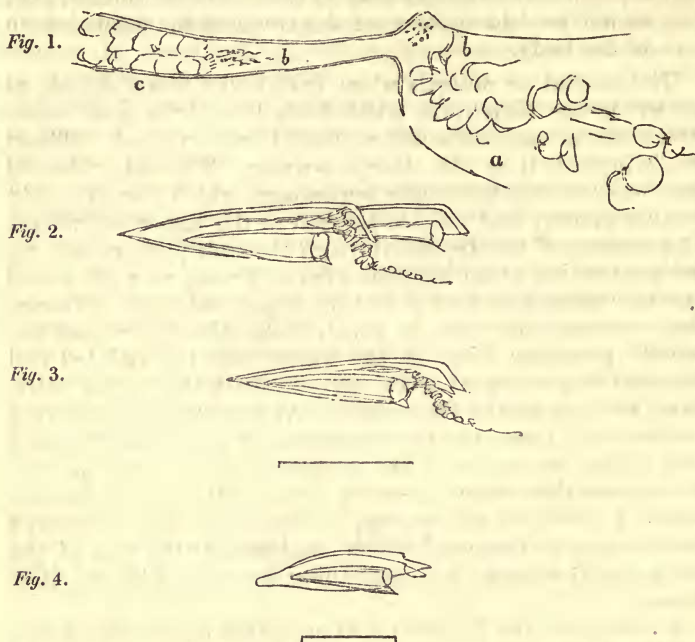


Fig. 1. A highly magnified view of the base of the tentacular appendage and part of the nutritive organ. *b, b.* Groups of opaque particles in motion at these places, the circulation going on throughout the divisions of the oblong vessel *c*.

Fig. 2. The two animals united, as first taken.

Fig. 3. The larger individual with the tentacular appendage.

Fig. 4. The smaller individual.

When viewed under a lens, the ridges of the body are seen to be serrated along the edge.

XXI.—Report of the Results of Researches in Physiological Botany made in the year 1839. By F. J. MEYEN, M.D., Professor of Botany in the University of Berlin*.

[Continued from vol. vi. p. 429.]

M. UNGER, in a treatise on the organs of fructification of *Riccia glauca*†, has made a few but very important remarks on the present question concerning the sexuality of Phanero-

* Translated from the German, and communicated by Henry Croft, Esq.

† Linnæa von 1839, pp. 15-17.